CAMON

C500 STUMP GRINDER

Operating Instructions

Before commissioning the machine, read operating instructions and observe warning and safety instructions.

CE

TRACMASTER

Landscape • Groundcare • Conservation

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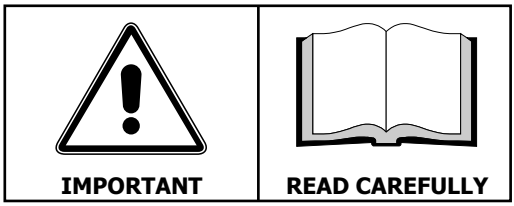


No liability will be accepted for any damage caused to persons or property through failure to observe the operating and safety instructions.

Safety

ALWAYS start the engine in the open air

DO NOT smoke when refuelling

DO NOT mix **OIL** with the fuel

ALWAYS stop the engine before making any adjustments, refuelling, moving or cleaning, or when the unit is unattended

USE ONLY fuel from containers designed for this purpose - refuel outdoors only and replace the tank cap securely

IN CASE of petrol spillage move the machine away from the area of spillage and allow the petrol vapours to dissipate before starting the engine

DO NOT remove any safety guards that are fitted

DO NOT touch any moving parts or attempt any maintenance whilst the machine is running - **KEEP HANDS AND FEET AWAY**

BEFORE starting work clear the work area of any objects that could damage the machine

DO NOT allow children or anyone uninstructed to operate the machine - **KEEP ANIMALS AWAY**

DO NOT use on slopes or banks of more than 20°

ALWAYS wear suitable clothing to give personal protection including footwear that offers a good grip

AVOID wearing loose garments that may catch in moving parts

KNOW how to stop the machine in an emergency

NEVER interfere with any control settings on the engine

NEVER select reverse gear with your back to a wall or other immovable object

IF A FAULT develops **DO NOT** attempt any repair - immediately contact the supplier from whom the machine was obtained

VISUALLY INSPECT the machine before use - ensure all tines, nuts and bolts are tight and not worn or damaged and replace tines if necessary

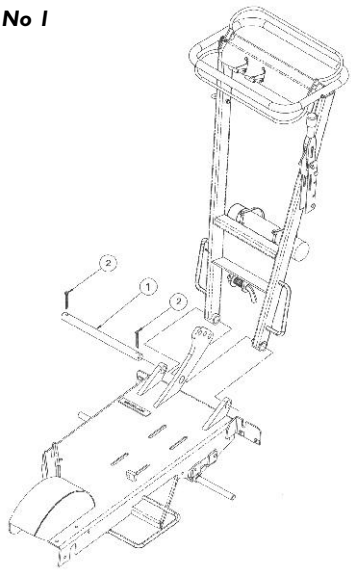
KEEP IN MIND the operator is responsible for accidents or hazards occurring to people or property

ASSEMBLY GUIDE

Assembly Instructions

1. Remove the machine from its crate.
2. Remove the handlebar securing pin - Part No 11159 *(Diag No 1, Item No 1)*.
3. Fit the handlebar with the securing pin and fit split pins Part No 960200 *(Diag No 1, Item No 2)*.
4. Attach the brake cable *(Diag No 2, Item No 1)* and adjust as necessary.
5. Connect the wiring harness by fitting eyelet terminal to 6mm bolt above the on/off switch and connect the male bullet to the black three-way connector to the oil alert *(Diag No 3)*.
6. Check engine oil level top up if necessary with 15w/40 oil.
7. Put unleaded fuel in the fuel tank.
8. The machine is now ready to be run in accordance with the operating instructions.

Diag No 1



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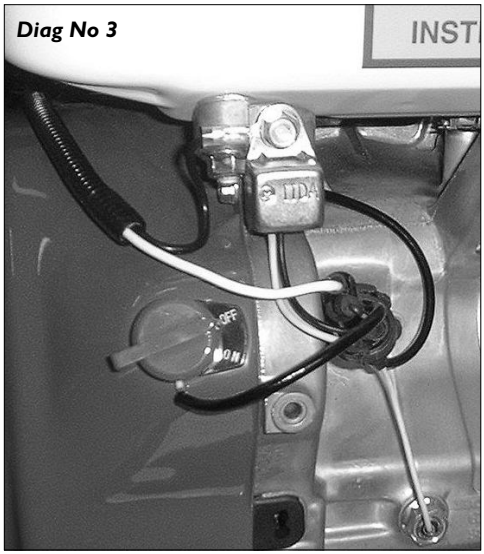
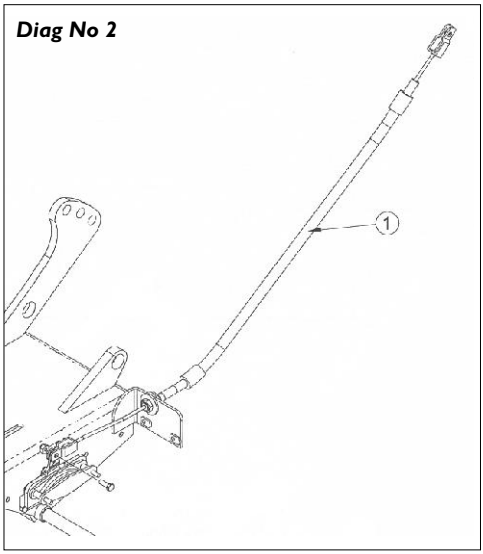


Diag No 2



ASSEMBLY GUIDE

Throttle Cable Clamp

⚠ IMPORTANT

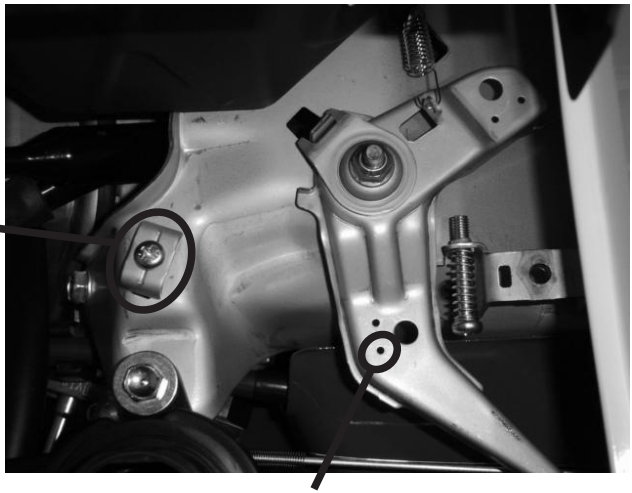
READ CAREFULLY!

FIG 1

The throttle cable clamp may be fitted in this position. If so, move it to the position shown in fig. 2 (below)

FIG 2

This is the correct position for the throttle cable clamp

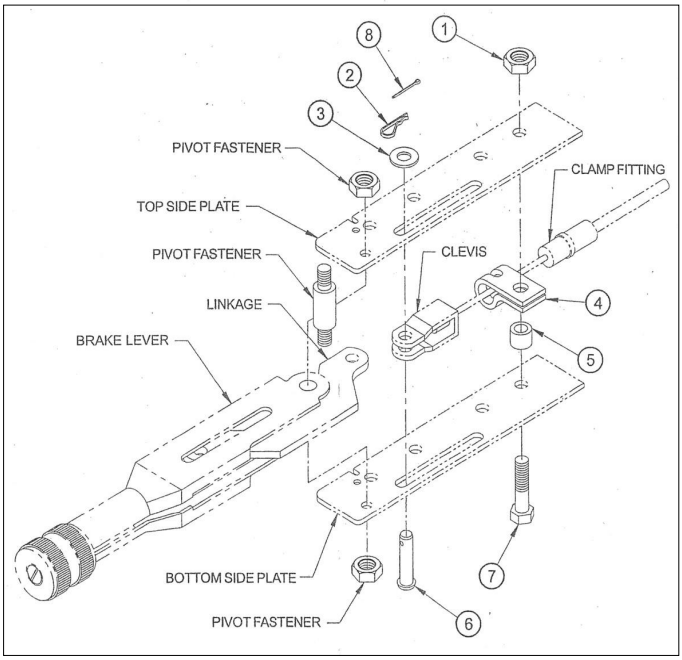


The throttle cable needs to be passed through this hole to ensure full throttle during operation

ASSEMBLY GUIDE

Handbrake Assembly

1. Loosen pivot fastener that holds the brake lever to the side plates.
2. Rotate the top side plate to either side so that it is out of the way for the following assembly.
3. Install clamp ④ onto cable. To install clamp properly, hold the clamp fitting attached to the conduit in your right hand so that the cable eye that attaches to the brake lever is to your left. Now with your left hand install the clamp over the cable with the flat side of the clamp facing up. Position clamp on the clamp fitting with the clamp pressed against the shoulder. DO NOT POSITION CLAMP WITH THE SHOULDER LOCATED IN THE GROOVE OF THE CLAMP. Now close the clamp using a vice.
4. Install the bolt ⑦ in the hole next to the squared end of the bottom side plate.
5. Install the spacer ⑤ on the bolt below the clamp.
6. Install the brake cable with the flat side of the clamp facing up. Position clevis over linkage and align the clamp over the bolt ⑦.
7. Install clevis pin ⑥ through groove in bottom side plate and through clevis/linkage arrangement.
8. Position the top side plate over the bolt and clevis pin.
9. Install the nut ① onto the bolt.
10. Install the washer ③ over the clevis pin ⑥.
11. Install and lock the hair pin or cotter pin ② or ⑧ onto the clevis pin ⑥. NOTE: Both cotter pin and hair pin are included in the kit.
12. Tighten pivot fastener to remove any play between the brake lever and the side plates. NOTE: Do not over-tighten, this may cause the lever to not rotate freely.
13. Tighten nut ① sufficiently to retain cables (approximately 150 in-lbs). IMPORTANT! Make sure that shoulder of the clamp fitting is pressed tight against clamp when tightening this nut. If the shoulder is not resting snugly against the clamp, the control may not function properly.



OPERATION

Operation

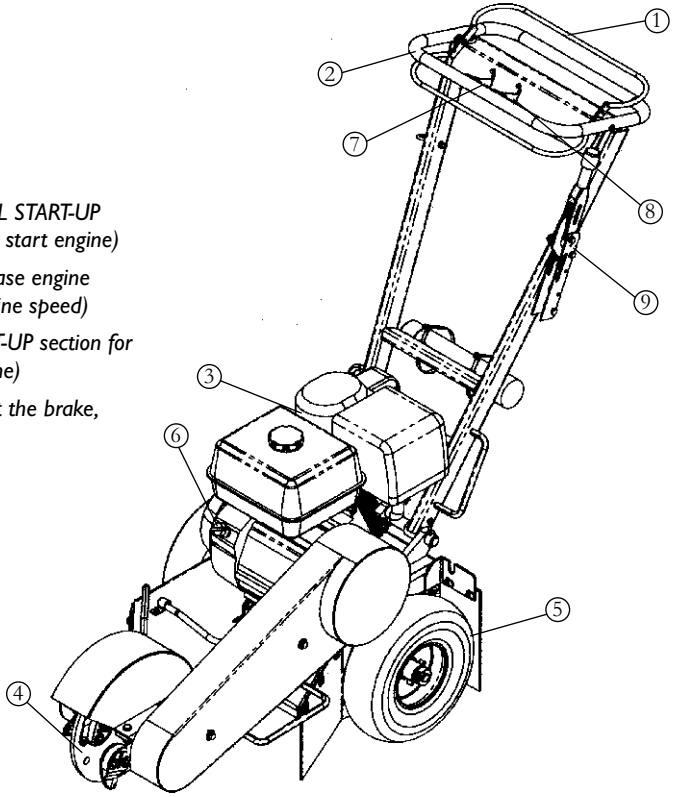
⚠ WARNING!

Before operating, please consult the SAFETY section for vital information relating to the operation of this powerful machine.

Know Your Machine

General Identification

① Operator presence control
② Handlebar
③ Engine
④ Cutter wheel
⑤ Wheels
⑥ Engine switch *(see the NORMAL START-UP section for instructions on how to start engine)*
⑦ Throttle *(move forward to increase engine speed, pull back to decrease engine speed)*
⑧ Choke *(see the NORMAL START-UP section for instructions on how to start engine)*
⑨ Brake lever *(pulling back will set the brake, pushing it down will release it)*



⚠ WARNING!

A rotating cutting wheel is very DANGEROUS! Stand at controls and ensure that cutting wheel comes to a complete stop before doing anything else.

OPERATION

Transporting the Machine

The C500 is designed to be transported via a van or small trailer. The machine is equipped with grab bars that are to be used for both lifting the machine, and strapping it down. This machine weighs approximately 118kg and should only be lifted by a minimum of two people in proper physical health. Know your limits.

There are legal road requirements for towing equipment and trailers (such as lighting and licensing). It is the owner/operator's responsibility to be aware of these laws and to adhere to them.

Pre-Starting Inspection

NOTICE

To ensure the long life and economical operation of your C500, we highly recommend that the owner/operator be well instructed in both the operation and maintenance of this machine.

Inspect the machine and perform each of the "10 Service Hours or Daily" (see MAINTENANCE section) maintenance inspections and services as found necessary before operating the machine.

Starting the Engine

⚠ WARNING

Read and understand the SAFETY section of this manual, in its entirety, before proceeding.

⚠ WARNING

Do not start the engine until the machine is in the cutting position, next to the stump!

1. Lock travel wheel by pulling brake lever fully back.
2. Make sure engine switch is "ON".
3. Make sure throttle is in "SLOW" position.
4. If engine is cold, move the choke lever to the closed position.
5. Depress the operator presence lever.
6. Raise the cutter wheel off the ground 4" to 5" by pushing downward on the control handle. Hold it in that position.

   WARNING: The next step may cause the cutter wheel to rotate. Keep everyone away!
7. Pull the starter rope lightly until resistance is felt, then pull briskly.
8. Move the choke lever to the open position.

   WARNING: The next step causes the cutter wheel to rotate. Keep everyone away!
9. Move the throttle to "FAST" position. If the engine is cold, allow the engine to idle (throttle set to "SLOW" position) for a few minutes before cutting.

OPERATION

Removing Stumps

⚠ WARNING

Before operating, please carefully review the SAFETY section for vital information relating to the operation of this powerful machine!

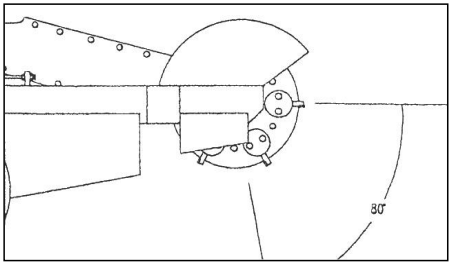
NOTICE

Remove all loose pieces of wood, stones, wire and other debris from the work area before beginning stump removal.

Wind direction should be considered, as it influences the direction in which dust and wood chips will be directed.

Never operate the machine after dark. Night time operation will not allow the operator to see the stump and danger zone adequately enough for safe operation.

Always allow a cold engine time to warm up before cutting a stump.



⚠ WARNING

Only the portion of cutting wheel within the 80° area shown above should engage the stump. Never undercut the stump or use the bottom of the cutting wheel for cutting purposes.

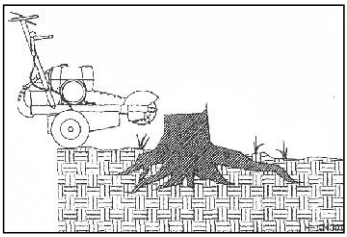
OPERATION

Procedure for Cutting a Stump

⚠ WARNING

Never leave controls when cutting wheel is rotating!

1. Prepare machine at stump
   - Place machine into position with cutting wheel near top edge of stump.



NOTICE

Before operating the C500, review MACHINE CONTROLS presented earlier in this OPERATION section, for a refresher on the function and use of each control and component.

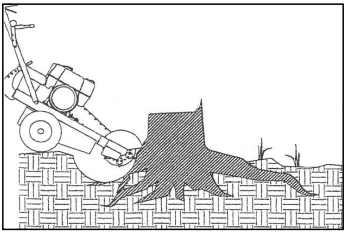
- Conduct the pre-starting inspection (if not already done), start the engine, and conduct the pre-operation warm-up, as previously discussed in this OPERATION section.

⚠ WARNING

Keep everyone away when cutting wheel is ON!

- Lock the brake by pulling back the brake lever.

2. Remove roots
   - Make sure the throttle is set to "FAST". The cutter wheel is thus accelerated to cutting speed.
   - Swing the cutting wheel to one side, then lower it approximately 1" into the nearside roots that are buried at the foot of the stump. Swing the cutting wheel across the roots, back and forth, lowering cutting wheel approximately 1" before each sweep, until the roots are sufficiently removed.



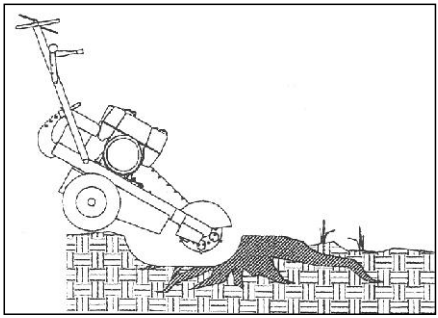
- Raise the cutting wheel until centre of cutting wheel is just above the top of the stump. Allow the cutter wheel to stop, release the brake, and reposition the machine. Lock the brake again.

OPERATION

Procedure for Cutting a Stump

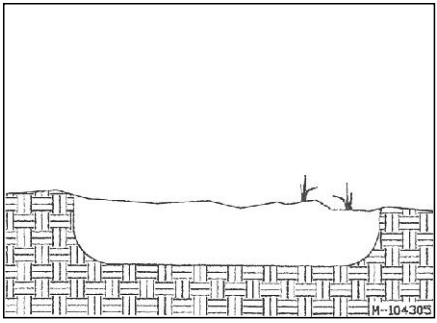
3. Cut stump proper

   - Make sure the throttle is set to "FAST". The cutter wheel is thus accelerated to cutting speed.
   - Direct the cutter wheel against the stump, beginning with the nearside top corner of the stump, and steadily sweep it across the stump left and right, cutting away $^{1}/_{2}$" of wood with each sweep.
   - Raise and lower the cutter wheel, between sweeps as needed, by lowering and raising the control handle.
   - Roll the machine forward and back, by pushing and pulling on the control handle, between sweeps as needed, in order to progress into the stump. To do this, release the brake. Re-lock it when the machine has been repositioned, and continue cutting.



4. Continue with final roots removal

   - Cut the remaining roots as described in STEP 2 until satisfactorily removed.



5. Shut off the engine by releasing the operator presence lever.

OPERATION

Machine Stopping

1. When stopping the machine after normal operation, lower engine speed to "SLOW", and release operator presence control.

⚠ WARNING

A rotating cutting wheel is very DANGEROUS! Stand at controls and ensure that cutting wheel comes to a complete stop before doing anything else.

2. Set park brake before leaving controls.

3. Turn engine switch to "OFF".

Helpful Tips for Operating Machine

1. Use smooth, comfortable speeds while operating.

2. When it is desired to cut smaller roots, it may be more effective to do so before, rather than after, cutting the stump.

3. Should the chip build-up become excessive when cutting, shut off the machine, wait for the cutting wheel to stop rotating, retract the machine from the stump, and rake away chips. It is also possible to use the cutter wheel to push chips off to the side.

4. On larger stumps, when cutting from one side, eventually a tyre may tend to roll into the hole. This may be prevented by moving the machine to another side of the stump to continue removal, or by filling the hole with chips before continuing.

OPERATION

While in Operation

1. Know how to shut the machine off in an emergency.

2. The operator must never leave the controls while the machine is in operation.

3. Never let clothing, long hair, jewelry, etc hang loosely. It is possible that they can become dangerously entangled in the moving parts or in the controls of the machine.

4. Keep head, hands, and feet away from moving parts at all times.

5. The engine should not be started within a building unless it is properly ventilated so as to eliminate the breathing of exhaust fumes, which can cause death.

6. Check for proper operation of all controls and protective devices while operating them slowly.

7. Extreme caution must be exercised when cutting stumps on slopes, as the machine may shift or slide unpredictably. Never attempt to cut with the machine uphill or downhill from your person. The machine may slide toward you, or you may fall toward the machine. Cut only on a slope from the side. Never attempt to cut on a slope exceeding 15°.

8. Never operate the machine after dark.

9. Wear appropriate safety equipment, including protective eyeglasses, face shield, protective footwear, and hearing protection.

10. For safety, local or job site operating directives may require a greater distance from obstacles.

11. Keep eye contact with cutting wheel at all times that it is rotating.

12. Use only the front lower portion of the cutting wheel below the shaft. Never undercut the stump, or use the upper portion of the wheel for cutting purposes.

13. Occasionally, a curtain may become displaced in such a way as to leave a normally covered area exposed. Shut down the machine immediately if it occurs, and reposition the curtain before continuing operation.

14. Ensure that everyone in the vicinity is aware of the DANGER ZONE associated with this machine. (See BEFORE STARTING THE ENGINE section). You and they must avoid the DANGER ZONE at all times when the machine is in operation.

SAFETY

Normal Shutdown Procedure

In consideration of your own safety as well as that of others, you should always use the following normal shutdown procedures before departing from the controls for any reason, including cleaning, servicing, transporting, or inspecting the stump grinder. Never deviate from this procedure unless so instructed in this manual or an emergency requires it.

1. Move the engine throttle to the "SLOW" position.

2. Release operator presence control.

⚠ WARNING

A rotating cutting wheel is very DANGEROUS! Stand at controls and ensure that cutting wheel comes to a complete stop before doing anything else.

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3. Set park brake before leaving controls.

4. Turn the engine switch to the "OFF" position.

Emergency Shutdown Procedure

1. Immediate release of the operator presence control will automatically shut off the engine.

2. Be sure to allow all moving parts to come to a complete stop.

⚠ WARNING

A rotating cutting wheel is very DANGEROUS! Stand at controls and ensure that cuttng wheel comes to a complete stop before doing anything else.

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3. Correct the emergency situation, and return to normal operation.

SAFETY

Before Starting the Engine

1. Review all of the safety decals that are placed on the machine for your safety and convenience. See PARTS section for aid in locating all decals on the machine.

2. Make sure that all shields, guards, and curtains are in place, and are in good condition prior to operating the machine.

3. Only responsible, properly instructed individuals should operate this machine. Inexperienced operators must always be carefully supervised.

4. Check cutting wheel for damage or missing teeth, and replace as necessary.

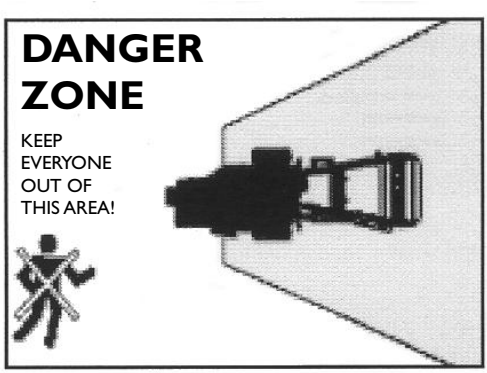
5. Make sure that no-one is working on, underneath, or close to the machine before starting the engine or beginning to move the machine. Make sure that the area is free of personnel.

6. Check stumps to be removed for embedded nails, wire, metal fence posts, and other metallic objects, and for rocks or other buried impediments which may become dangerously thrown or cause unexpected machine movements when hit by the cutting wheel.

7. Ensure that everyone in the vicinty is aware of the DANGER ZONE associated with this machine (see diagram right). You and they must avoid the DANGER ZONE at all times when the machine is in operation.

8. Make no alterations or modifications to your CAMON Stump Grinder unless requested or recommended by Tracmaster Ltd.

9. Check with the local utilities for the locations of buried pipes and cables where applicable, before operating the machine.



MAINTENANCE

Brake Adjustment Check

For coarse adjustment, loosen lock nuts ① on hub at lower end of cable. Adjust lock nuts as necessary and re-tighten.

For fine adjustment, turn brake lever knob ② clockwise, one revolution while brake is released, then check operation. Wheel should lock completely. Repleat if necessary.

MAINTENANCE

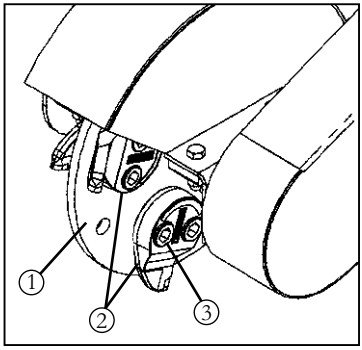
Changing Teeth

⚠ WARNING

Support cutter wheel in a raised position when changing teeth!

NOTICE

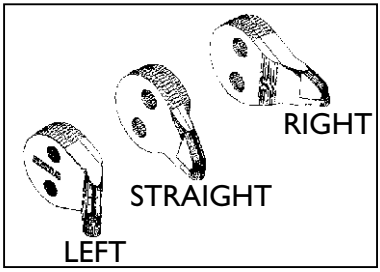
Read all of the following instructions before beginning to change cutting wheel teeth.



1. Clean all dirt from the cutting wheel ① and teeth ②.
2. Remove the socket head bolts ③ from the teeth ②. The ½" hex key provided with the machine may be used.
3. Check the cutting wheel for cracks. Replace the wheel if it is cracked.
4. Carefully select and properly position each tooth according to diagrams.
   - Position teeth as shown in the cutter teeth diagram in the Parts Section. Straight and angled teeth should be staggered as shown in drawing.
   - Make sure teeth are placed in co-ordinance with wheel rotation.
   - After setting each tooth pair, tighten the socket head bolts to 135 to 145 foot pounds.

NOTICE

Do not hammer the tip of a tooth. Due to the super hardness of the tooth, it is brittle and may chip from such treatment.



A "left", a "straight", and a "right" tooth is determined by which direction the tip of the tooth points. The left and right sides of the cutting wheel correspond to the left and right sides of the machine itself, looking from the front of the machine.

MAINTENANCE

Sharpening of Teeth

Do not allow any tooth to wear too much before sharpening. Discard any tooth that has lost more than 3mm of original bite.

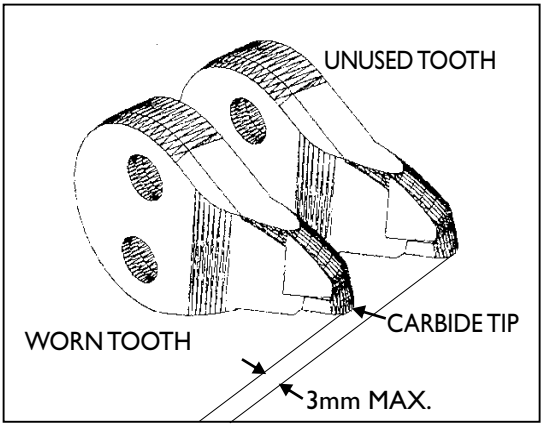
The teeth must be removed from the cutting wheel for proper sharpening.

NOTICE

Sharpening silver soldered carbide cutting teeth requires a special process. Have your teeth sharpened only by a qualified machinist for obtaining a proper edge and to avoid injury.

Tooth Sharpening Guidelines

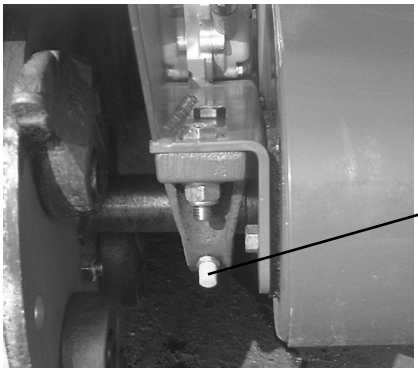
1. Obtain an unused tooth for comparison.
2. Discard any tooth that has lost more than 3mm of original bite, whether through usage or grinding.
3. Grind off minimal amount from the end, just enough to restore the original taper and radius on the end. The end of the soldered carbide tip and the end of the steel shank should be flush after grinding.
4. Broken carbide tips can be replaced using silver solder. Follow point 3 after soldering new tips.



MAINTENANCE

Cutting Wheel Bearings

Lubricate



Lubricate two fittings ① (one on each cutting wheel bearing).

NOTICE

Pump grease in slowly, and carefully, to prevent damage to the bearing seals. Use extreme caution when using a high pressure or high volume grease gun.

Walk-Around Inspection

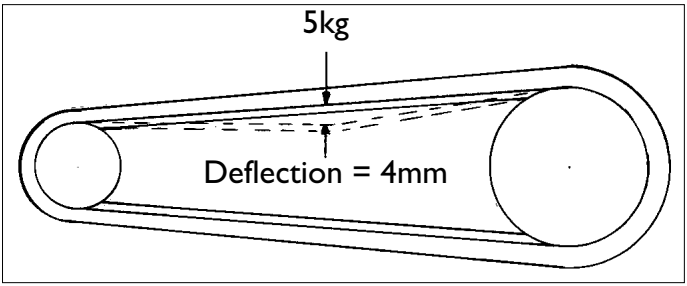
1. Inspect and remove any chip or residue build-up in and around the engine.
2. Be sure covers and guards are firmly in place. Inspect for damage.
3. Inspect tyres and rims for damage and inflation. Maintain inflation (max 20psi). Replace worn tyres.
4. Inspect belts for wear. Replace if frayed or cracked.

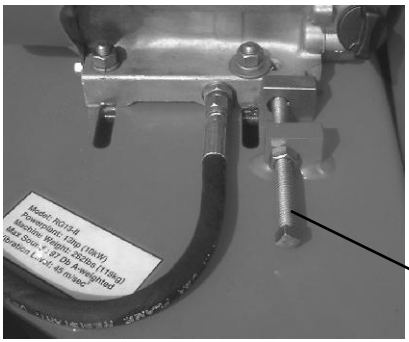
MAINTENANCE

V-Belt Tension

Check

Drive belts are properly tensioned when 5kg of pressure at the centre of the span produces 4mm deflection.





To adjust tension, loosen the engine mounting bolts, loosen the lock nut on the tensioning screw ① on the front of the frame. Turn the tensioning screw clockwise to increase tension and anti-clockwise to decrease tension. After proper belt tension is obtained, tighten lock nut on tensioning screw and all engine mounting bolts. Recheck alignment of pulleys.

MAINTENANCE

Storing the Machine

Preparing the Machine for Storage

Store the machine in a dry protected place. If the machine must be stored outside, cover it with a waterproof canvas or other material.

Clean all grease, dirt, mud, and other foreign matter from the machine. Wash the machine. Start and operate the machine to help get rid of puddled or excess water. To inhibit rusting, paint all exposed surfaces.

Remove all drive belts, and store in wrapped condition. Spray grooves of belt sheaves with anti-corrosive agent.

Information on preparing the engine for storage, is contained in the "Storage" section of the Honda Operation Manual, shipped with this machine.

Check your machine for any worn or broken parts at this time. By ordering and installing replacement parts now, you can avoid unnecessary delays when you remove the machine from storage.

Removing the Machine from Storage

Remove all coverings.

After prolonged storage, inspect wheels and brakes. Check tyres for proper inflation.

Check fuel lines for deterioration, and replace as necessary. Tighten all nuts, bolts and replace fuel filter.

Information on removing the engine from storage is contained in the "Storage" section of the Honda Operation Manual, shipped with this machine.

Wipe off any anti-corrosive agent from grooves of belt sheaves and remount the belts.

Check the tension of the belts.

Check the machine in accordance with the "Before Starting the Engine" as found on page 13 of these Operating Instructions.

MAINTENANCE

Maintenance Overview

OPERATION	10 Hrs or Each Use	1st Month or 20 Hrs	1st 50 Hrs	Every 3 Months or 50 Hrs	1st 100 Hrs	Every 6 Months or 100 Hrs	Every Year or 300 Hrs
Check engine oil level 10W/40	X	X	X	X	X	X	X
Fuel tank fill	X	X	X	X	X	X	X
Remove grease and oil build-up	X	X	X	X	X	X	X
Cutter wheel – sharpen or change teeth	X						
Cutter wheel bearings – lubricate	X	X	X	X	X	X	X
Air filter – check	X	X	X	X	X	X	X
Air filter – clean				X	X	X	X
Air filter – replace							X
Walk around inspection	X	X	X	X	X	X	X
Engine leaks – check			X				
Engine oil – change		X				X	X
Engine mounts – check		X		X	X	X	X
V-belt tension – check		X		X	X	X	X
Brake – adjust		X					X
Brake lining – check							X
Tyre condition – check							X
Tyre pressure – 20psi		X					
Spark plug – clean & re-adjust						X	X
Spark plug – replace							X
Sediment cup – clean						X	
Idle speed – check & adjust							X
Valve clearance – check & adjust							X
Fuel tank & strainer – clean							X
Fuel line – check							X

NOTE:

- **DO NOT allow maximum engine speed to exceed 3600rpm.**
- **Cutting teeth must be kept sharp. Blunt teeth will cause damage to the machine and high vibration levels for the operator.**

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Specifications are subject to change without prior notice.

TRACMASTER
Landscape • Groundcare • Conservation

Tracmaster Ltd, Sovereign Centre, Victoria Road, Burgess Hill RH15 9LR
T: +44 (0) 1444 247689 F: +44 (0) 1444 871612
W: www.tracmaster.co.uk E: info@tracmaster.co.uk